

TECHNOLOGY & APPLICATIONS OF MOBILE LEARNING

IADIS International Conference
on Mobile Learning 2009
Barcelona, Spain
26 – 28th February 2009

Conference Administration

- Organiser's laptop do not support Powerpoint 2007 version
- Most presenters chose to use their own laptop & caused some slight delay
- Programme schedule was not printed on the participants' name-card-tag
- Food coupons were used

Conference Administration

- Complementary WiFi access point were provided by the organiser – most often Internet can't be accessed
- The conference had little publicity as no governmental officials were present during the opening ceremony
- Venue was strategically located above a public transportation hub

Terms, Concepts, Idea

Mixed Reality

Nomadic & Location
Based Learning

Mobile Games

Geo-Tagging

Technologies

Ubiquitous Learning

Mobile Applications

Pattern Recognition

RFID

Content Design

Interoperability

Programming

Ubiquitous Learning

- To make sure m-learning is accessible anytime, anywhere through the use of available technologies
- Physical objects + RFID tags => learning



LORAM SYSTEM
Learning 101 RFID-based System

検索: 101 / TOP / ログイン / 登録 / 検索 / 発表 / 発表

ようこそ, moshima さん

マイページ / アップロード / 履歴 / ログアウト

お知らせ: 管理画面の通知が変更された

会員登録の案内動画 TOP5 (今は未実装なので別の人・動画にうつ)

1. 2007-09-14 14:16:12
テスト: ようよう
テスト用です。
ここをクリックして動画を再生

2. 2007-09-14 17:53:33
テスト: 用動画
テスト用です。
ここをクリックして動画を再生

3. 2007-09-14 18:20:36
検索テスト: 用動画
テスト用です。
ここをクリックして動画を再生

4. 2007-09-14 18:42:25
テスト: 用動画
テスト用です。
ここをクリックして動画を再生

5. 2007-09-28 14:29:01
テスト: 用動画
テスト用です。
ここをクリックして動画を再生

object | start_time | end_time

ハードディスク	0:55	5:18
CD Data Centre	1:30	5:24
CD Power Drive	5:37	9:09
CD Data Centre	7:22	9:18

プレイス | start_time

test	0:24
test	0:11

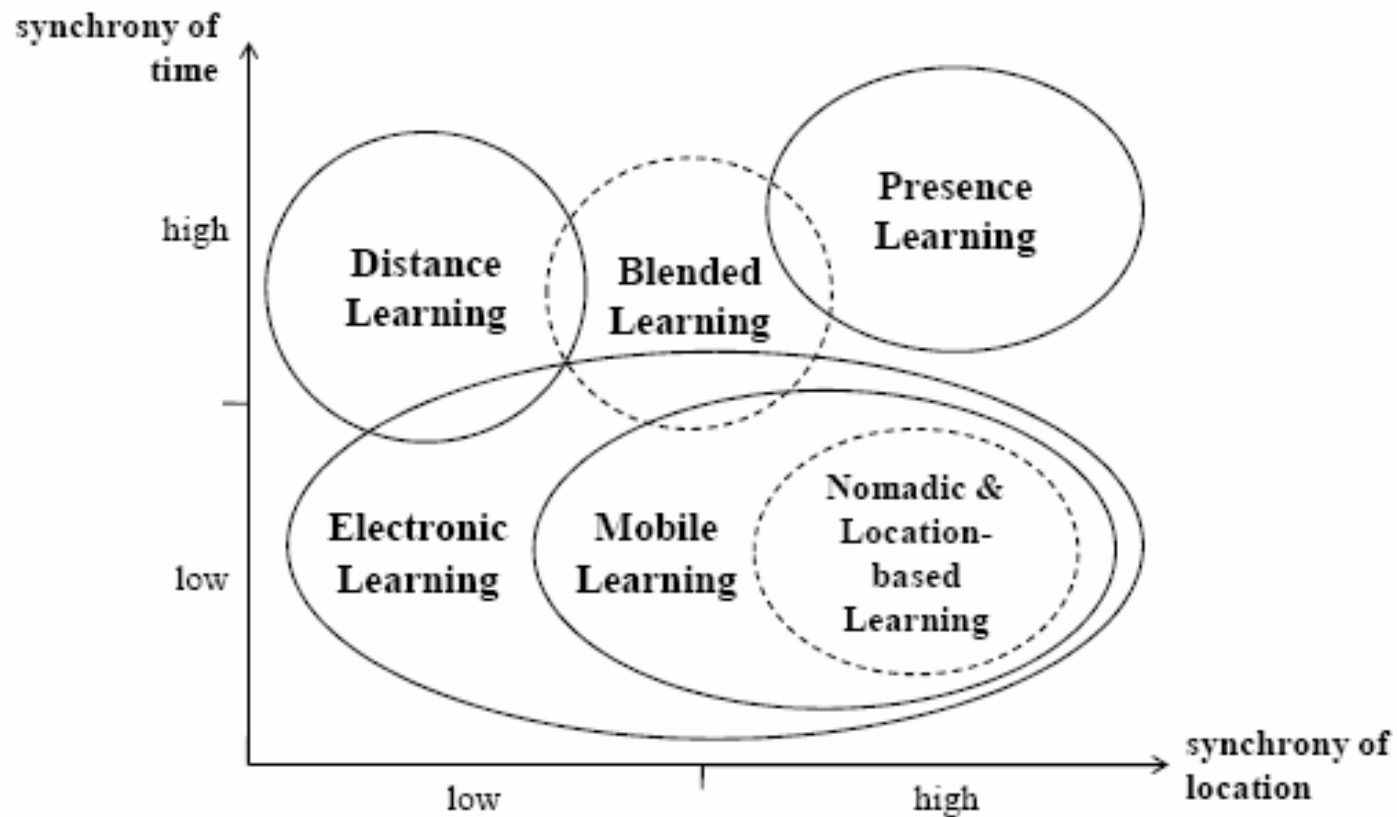
214 04:31 / 09:29

プレイヤー | 履歴

player ver: 91 2007-6-22
video_load eye 2007-6-17
test_load eye 2007-6-27
test_eye 2007-6-18

シーンリストモード

Concepts of Learning



Geo-Tagging/Nomadic Learning

- Location-based m-learning reminders
- Collaborative m-learning
- Technologies:
 - GPS (Global Positioning System)
 - NFC (Near Field Communication)
 - LBS (Location-Based System)
 - Wi-Fi
 - Satellite
 - RFID (Radio-Frequency Identification)
 - Bluetooth
 - etc

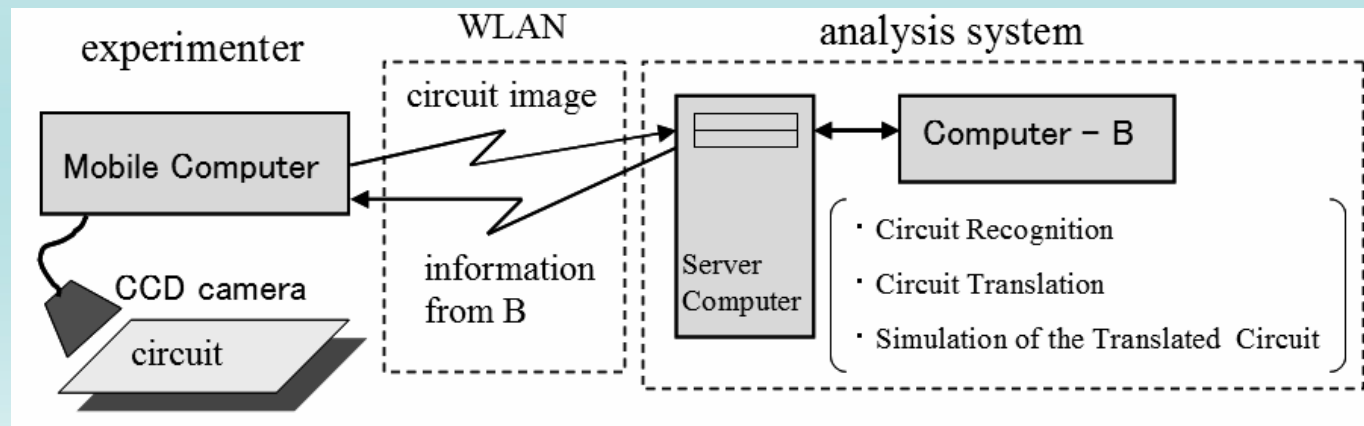
NFC Approach



Bulletin board supported by NFC technology

Objects Recognition

- A marker-based mobile learning – for plantation and manufacturing processes and workflow
- Context sensitive mobile learning – geo-tagging, maps, databases, buildings, urban planners
- Visual tagging – barcode to access digital library contents
- Physical recognition – circuits translation



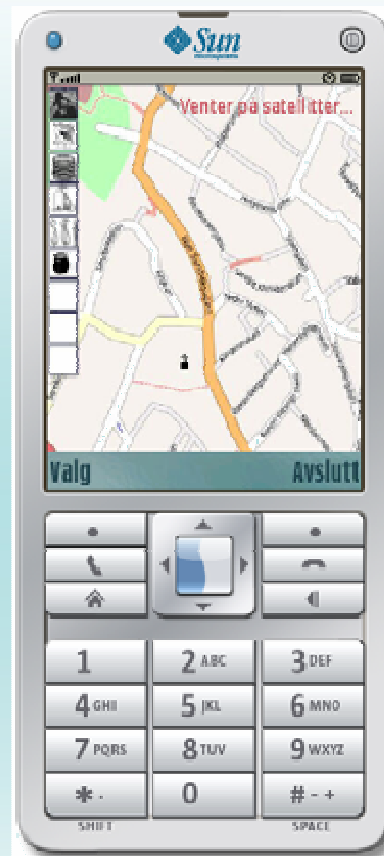
Mixed Reality

- Scanning, capturing physical objects – translated to knowledge
- Virtual Reality – virtual world
- Augmented reality



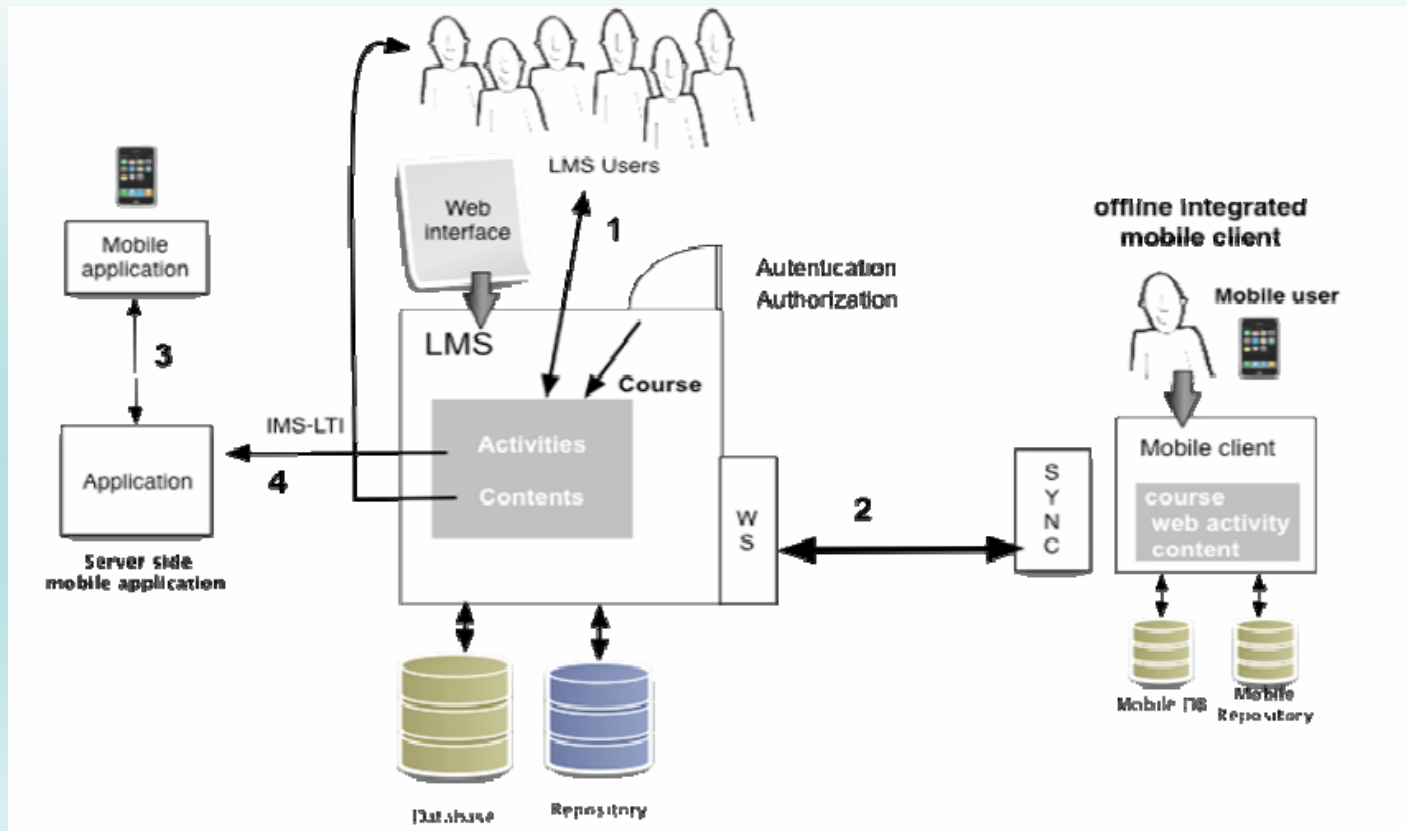
Applications/Contents

- Mobile games
 - Location-based games, role-play, history, GPS



Applications/Contents

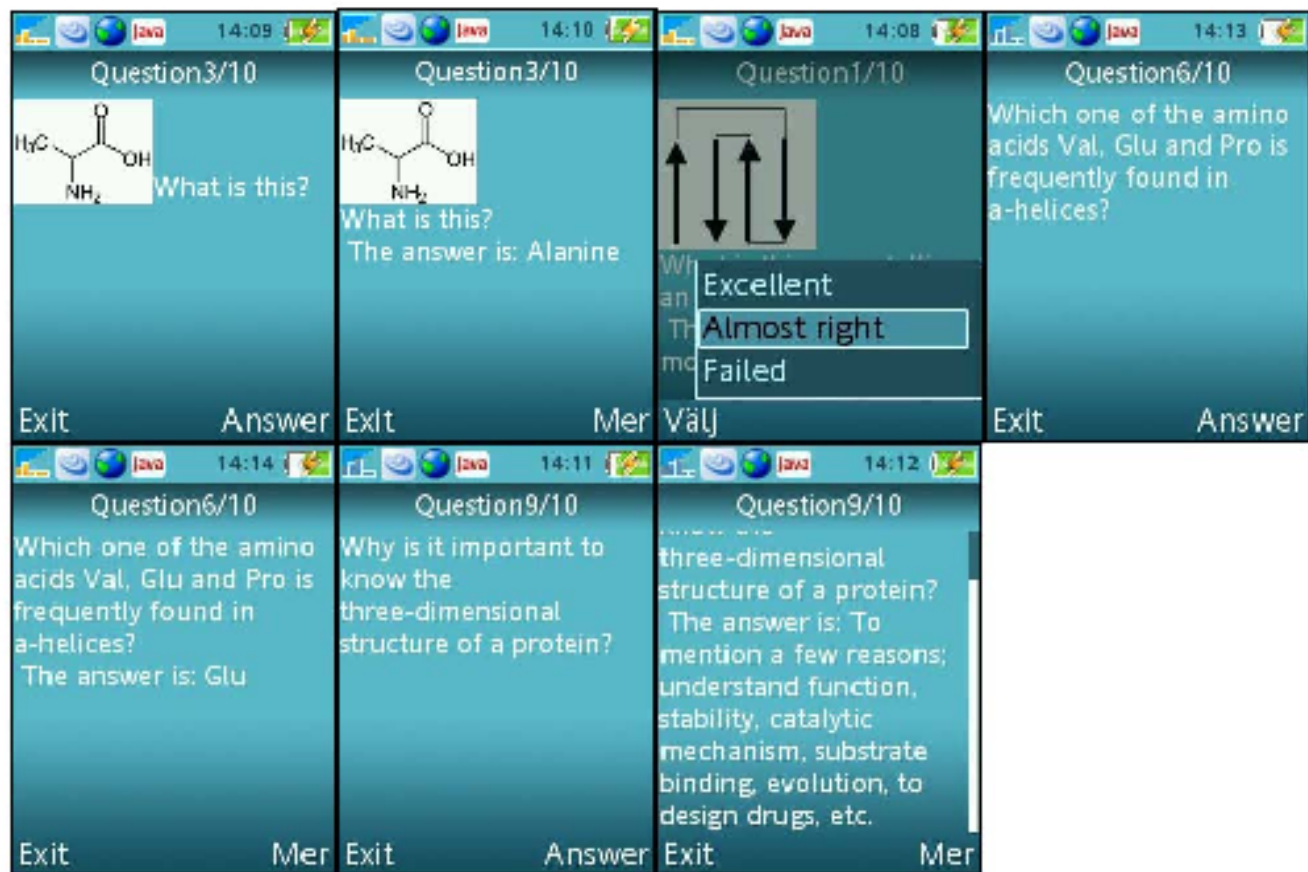
- LMS and mobile devices
 - Interoperability between LMS and mobile applications, Moodle



Applications/Contents

- Spatial working memory – content design purpose
- Virtual world for mobile learning
- Museum-based mobile learning
- Mobile investigation management system
- EFL using podcasts
- E-heritage
- Mobile language learning
- Mobile network architectures
- Automatic mobile learning contents

Prototype: Mobile Chemistry Programme



KTH/CSC/Media Technology

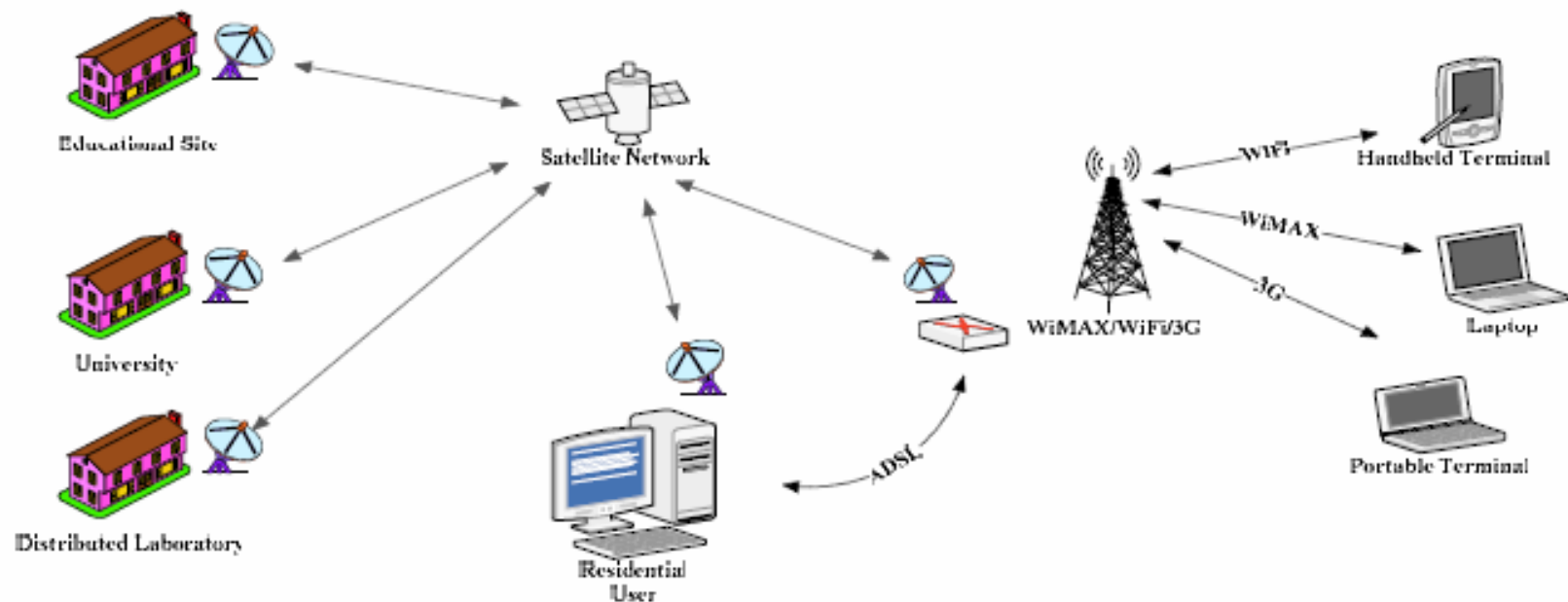
Mobile interactive museum guided tour



Cultural and Educational Technology Institute (CETI)/ Research Centre 'Athena'

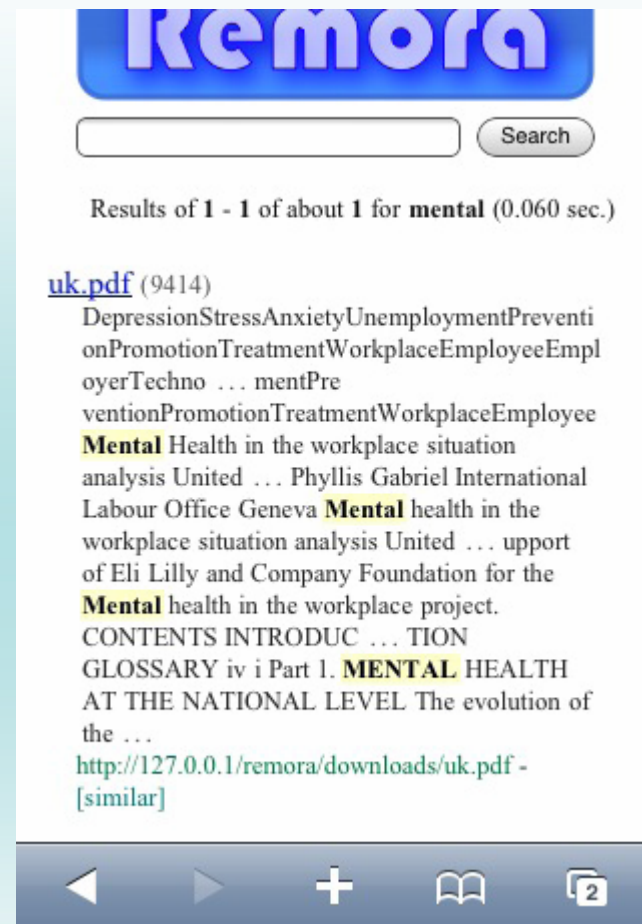
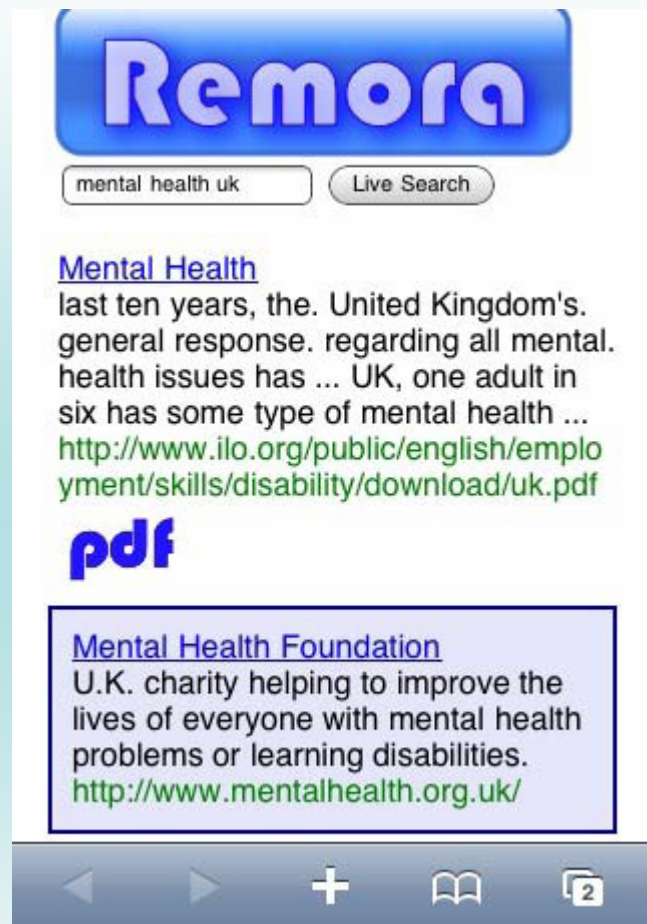
Applications/Contents

- Integrated technological platform for distance learning – satellite + Wi-Fi, WIMAX, 3G + LMS



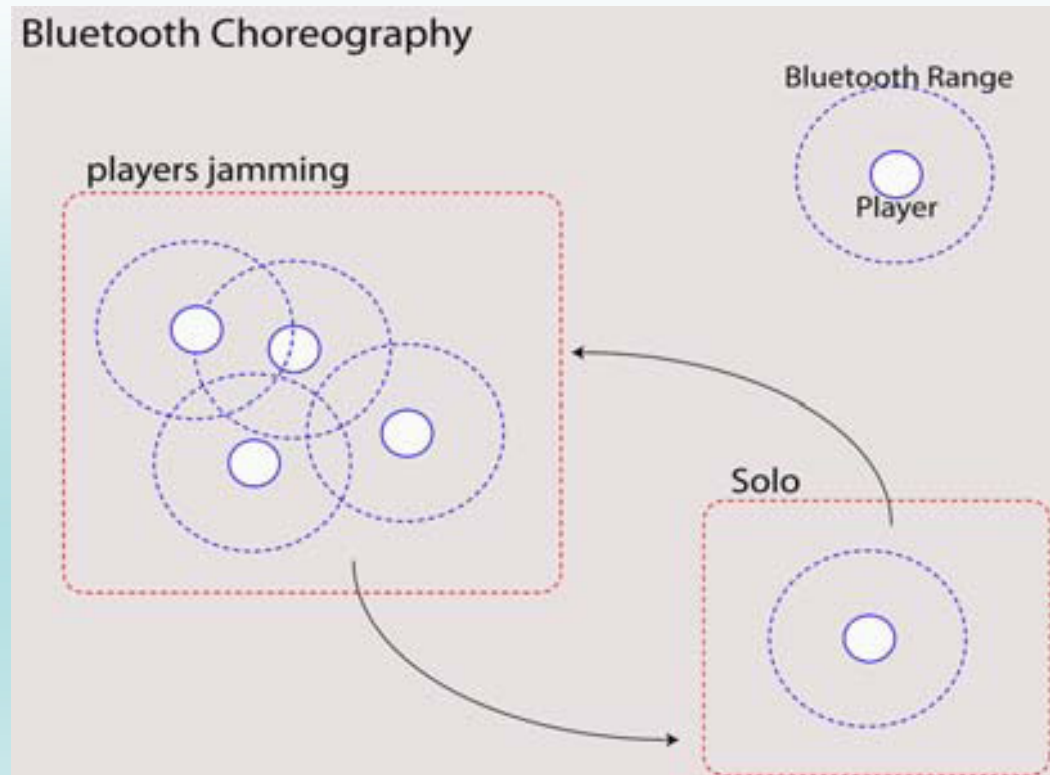
Applications/Contents

- Portable document search engine for offline mobile learning



Applications/Contents

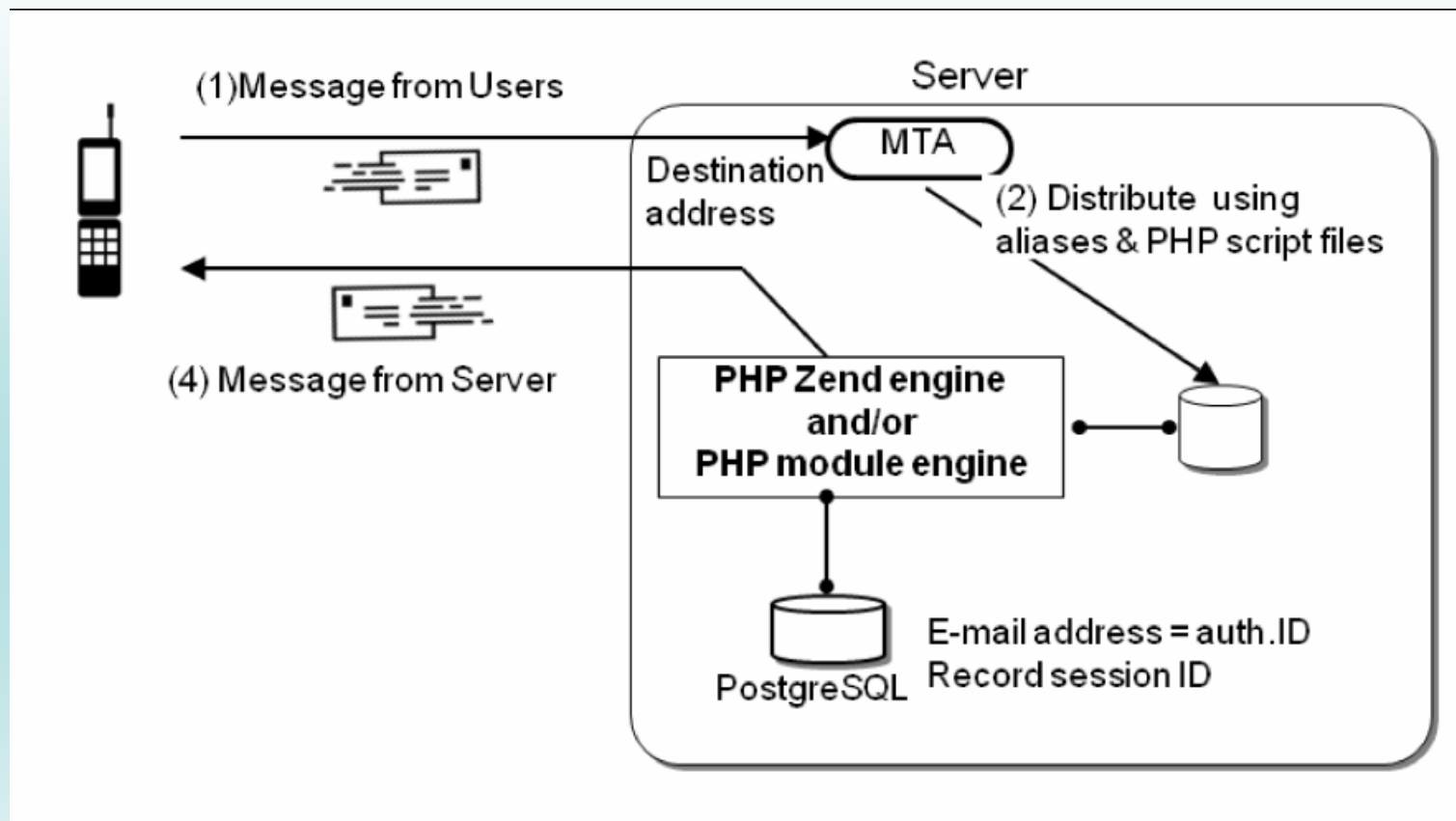
- Art, Design and participation in new media context



The Alter Audio model for participants using Bluetooth enabled devices to create mobile musical 'choreography'

Applications/Contents

- Session management for learning support environment – Attendance, Examination, etc



They have done...

- Web 2.0 / Mobile 2.0
- Google Maps API
- Geo-tagging, visual tagging, object recognition
- Smartphones (iPhone, HTC)
- iPod Touch
- Ajax, PHP, MySQL, xHTML, J2ME
- xDSL, Wi-Fi, WiMAX, 3G, Satellite
- PDA, Bluetooth, GPS, USB Storage, etc
- Conceptual designs, prototypes, architectures and implementation

Our direction?